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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,064	09/19/2006	Yibin Yang	USO40078	1774
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EXAMINER				
HOLDER, ANNER N				
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2483				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/599,064

Applicant(s)

YANG ET AL.

Examiner

ANNER HOLDER

Art Unit

2483

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-942)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Boroczky US 2002/0131512.
4. As to claim 1, Boroczky teaches a method of improving luminance transition in a video signal, [abstract; fig. 2; ¶ 0031-0035] the method comprising: decoding a coded video bitstream (102) around a transition from a first luminance level to a second luminance level; [fig. 1; ¶ 0032-0033] and providing a luminance transition enhancement based on a metric (109) indicative of the degree of video artifacts present in the decoded video bitstream (104). [¶ 0034]
5. As to claim 2, Boroczky teaches after the decoding, calculating the metric from coding information from the coded video bitstream. [fig. 1; fig. 2; ¶ 0029-0034]
6. As to claim 3, Boroczky teaches wherein the metric is a unified metric for digital video processing (UMDVP). [¶ 0030]

7. As to claim 4, Boroczky teaches wherein the video transition enhancement is based on a luminance transient improvement (LTI) value. [¶ 0032-0034]
8. As to claim 5, Boroczky teaches wherein an enhancement is effected, if at all, when the UMDVP value is greater than zero. [¶ 0053]
9. As to claim 6, Boroczky teaches wherein if the UMDVP value is less than a predetermined value, video enhancement is effected only after performing artifact reduction. [¶ 0039; ¶ 0053-0056]
10. As claim 11, Boroczky teaches an apparatus that improves luminance transitions, [abstract; fig. 2; ¶ 0031-0035] comprising: a video decoder; [fig. 1 (130); ¶ 0029-0030] a metric calculation module that determines a metric indicative of the degree of video artifacts in a signal; [fig. 1; fig. 2; ¶ 0031-0035] and a video processing module that includes a luminance transient enhancement module, wherein the luminance transient enhancement module provides a video transition based on at least a value of the metric at a location. [abstract; figs. 1-2; ¶ 0031-0035]
11. As to claim 12, Boroczky teaches wherein the metric calculation module receives coding information from the decoder. [fig. 1; fig. 2; ¶ 0029-0034]
12. As to claim 13, Boroczky teaches wherein the video processing module also at least includes an artifact reduction module. [fig. 1; fig. 2; ¶ 0029-0034]
13. As to claim 14, Boroczky teaches wherein the metric is unified metric for digital video processing (UMDVP). [¶ 0030]

14. As to claim 15, Boroczky teaches wherein the video enhancement module determines a luminance transient improvement (LTI) value for a plurality of locations along a luminance transition curve. Boroczky US 2002/0131512

15. As to claim 16, Boroczky teaches wherein the metric calculation module determine a UMDVP value for each of the plurality of locations. [abstract; figs. 1-4; ¶ 0029-0034]

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 7-10 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boroczky US 2002/0131512 in view of He US 6,600,517.

18. As to claim 7, Boroczky teaches wherein the UMDVP value is greater than a predetermined value.

Boroczky does not explicitly teach a shift, S', is applied at a particular location on a luminance transition curve of a video signal. [¶ 0032-0034]

He teaches a shift, S', is applied at a particular location on a luminance transition curve of a video signal. [abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

19. As to claim 8, Boroczky (modified by He) teaches the method as recited in claim 7.

Boroczky further teaches wherein a plurality of UMDVP values are determined for a plurality of locations on a luminance transition curve; [¶ 0032-0034]

He teaches a plurality of respective shifts, S' , are calculated for the respective spots. [abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

20. As to claim 9, Boroczky (modified by He) teaches wherein: $S' = f(\text{UMDVP}, S)$ where S is the shift from the LTI. [Boroczky - ¶ 0032-0034; He - abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

21. As to claim 10, Boroczky (modified by He) teaches the method as recited in claim 8.

He further teaches wherein the locations are one or more of: a block, a subpixel or a pixel. [abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

22. As to claim 17, Boroczky (modified by He) teaches an apparatus as recited in claim 16.

wherein the video enhancement module effects a shift, S', at a particular location only if a corresponding UMDVP value is greater than a predetermined value.

23. As to claim 18, Boroczky (modified by He) teaches an apparatus as recited in claim 16.

He further teaches wherein the video enhancement module effects a shift, S', at a particular location only after an artifact reduction module effects artifact reduction. [abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

24. As to claim 19, Boroczky (modified by He) teaches wherein the video enhancement module performs no shift at the particular one of the plurality of locations if the UMDVP value is less than a predetermined value. [Boroczky - ¶ 0053; He - abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

25. As to claim 20, Boroczky (modified by He) teaches an apparatus as recited in claim 16.

He further teaches wherein the locations are one or more of: a block, a subpixel or a pixel. [abstract; figs. 2-4; col. 5 lines 3-7, 24-59; col. 6 lines 6-15; col. 8 lines 1-56]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting teachings of He with the device of Boroczky allowing for improved image quality and minimization of artifacts.

Conclusion

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Ustaris can be reached on 571-272-7383. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2483